

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

- Claim 1. (Currently Amended) A multi-layered lithography structure, the structure comprising:
- a substrate;
 - a first resist layer with a first surface coupled to said substrate, said first resist layer having a first resist ~~developed~~ latent image area;
 - an opaque barrier layer on a second surface of said first resist ~~with a barrier layer developed area~~, said opaque barrier layer covering said first resist latent image area;
 - a second resist layer coupled to said opaque barrier layer, said second resist layer having a second resist ~~developed~~ latent image area; and
 - a means for developing said multi-layered lithography structure
- wherein said first resist layer is exposed prior to depositing said opaque barrier layer, ~~and~~ wherein said first resist ~~developed~~ latent image area is developed subsequent to said second resist ~~developed~~ latent image area, ~~and wherein a barrier layer developed area is removed prior to developing said first resist latent image area.~~
- Claim 2. (Currently Amended) The structure of claim 1, further comprising a second opaque barrier layer on said second resist layer ~~with a second barrier layer developed area~~, and a third resist layer on said second opaque barrier layer with a third resist ~~developed~~ latent image area, wherein said second resist ~~developed~~ latent image area is developed subsequent to said third resist ~~developed~~ latent image area, ~~and wherein a second barrier layer developed area is removed prior to developing said second resist latent image area.~~

- Claim 3. (Currently Amended) The structure of claim 1, wherein said first resist ~~developed~~ latent image area, said barrier layer developed area, and said second resist ~~developed~~ latent image area have variable patterns.
- Claim 4. (Original) The structure of claim 1, further comprising a plurality of said structures on said substrate.
- Claim 5. (Currently Amended) The structure of claim 1, wherein said first resist ~~developed~~ latent image area, said barrier layer developed area, and said second resist ~~developed~~ latent image area have variable sizes.
- Claim 6. (Previously Presented) The structure of claim 1, wherein said opaque barrier layer is an opaque metallic layer.
- Claim 7. (Currently Amended) The structure of claim 1, wherein said first resist layer and said second resist layer are selected from at least one of the group consisting of: azide, polymers and copolymers of polymethylmethacrylate (PMMA), and ~~a resist consisting of at least one of Gamma-Butyrolactone, Cyclopentanone, Triarylsulfonium Hexafluoroantimonate Salt, Propylene Carbonate, Polyaniline, and polymeric solid an~~ epoxy novolac resin.
- Claim 8. (Original) The structure of claim 1 wherein said substrate is selected from at least one of the group consisting of: silicon, gallium arsenide, germanium, glass, and metal.
- Claim 9. (Previously Presented) A method of fabricating a multi-layer lithographic semiconductor, comprising:
applying a first resist layer to a semiconductor substrate;

masking said first resist layer and exposing said first resist layer, thereby forming a first latent image in said first resist layer;
adding an opaque barrier layer to said first resist layer covering said first latent image;
applying a second resist layer to said opaque barrier layer;
masking said second resist layer and exposing said second resist layer, thereby forming a second latent image in said second resist layer;
removing said second latent image;
etching said opaque barrier layer; and
removing said first latent image.

- Claim 10. (Original) The method of claim 9, further comprising preparing said substrate.
- Claim 11. (Original) The method of claim 9, further comprising applying post-application resist treatments.
- Claim 12. (Original) The method of claim 11, wherein said post-application resist treatments are selected from at least one of the group consisting of: softbake, hydration, and ammonia based image reversal.
- Claim 13. (Original) The method of claim 9, wherein a shape of said first latent image and the second latent image is selected from the group consisting of: square, rectangle, triangle, circle, oval, and polygon.
- Claim 14. (Original) The method of claim 9, wherein said etching is selected from the group consisting of wet etch, dry etch and develop/exposure.

- Claim 15. (Original) The method of claim 9, wherein said exposing uses rays selected from at least one of the group consisting of ultraviolet light, electrons, and x-rays.
- Claim 16. (Original) The method of claim 9, further comprising using alignment tools.
- Claim 17. (Previously Presented) The method of claim 9, further comprising adding a second opaque barrier layer on said second resist layer, applying a third resist layer on said second opaque barrier layer, masking said third resist layer and exposing said third resist layer, thereby forming a third latent image in said third resist layer, removing said third latent image, etching said second opaque barrier layer, and removing said second latent image.
- Claim 18. (Previously Presented) A lithographic process for fabricating multi-layer semiconductor devices, comprising:
providing a substrate;
coating a first resist layer onto said substrate;
exposing said first resist layer with a mask to form a first layer exposed area and a first layer unexposed area;
depositing an opaque barrier layer on said first layer exposed area and said first layer unexposed area;
coating a second resist layer onto said opaque barrier layer;
exposing said second resist layer with a mask to form a second layer exposed area and a second layer unexposed area;
developing said second layer exposed area;
etching said opaque barrier layer;
developing said first layer exposed area; and
fabricating devices on said substrate.

- Claim 19. (Original) The lithographic process according to claim 18, wherein said depositing is selected from the group consisting of: thermal evaporation, spin coating, spray coating, and electroless plating.
- Claim 20. (Original) The lithographic process according to claim 18, wherein said step of coating is spun coating.